

Abstract

The present invention relates to an interferometric measuring device for recording the shape, the roughness or the clearance distance of the surface of a measured object (8), having a modulating interferometer (2), to which is supplied short-coherent radiation by a radiation source (1), and which has a first beam splitter (2.3) for splitting the radiation supplied into a first beam component (2.1) guided via a first arm, and into a second beam component (2.1') guided via a second arm, of which the one is shifted with respect to the other, with the aid of a modulating device (2.2, 2.2') in its light phase or light frequency, and passes through a delay line (2.9'), and which are subsequently combined at an additional beam splitter (2.10) of the modulating interferometer (2), having a measuring probe (3) that is spatially separated from the modulating interferometer (2) and is coupled to it or able to be coupled to it via a light-conducting fiber set-up (6), in which the combined beam components are split into a measuring beam guided to the surface by a probe-optical fiber unit (3.1, 3.2) having a slantwise exit surface (3.4) on the object side and a reference beam, and in which the measuring beam ($r_1(t)$) reflected at the surface and the reference beam ($r_2(t)$) reflected at a reference plane are superposed, and having a receiver device (4) and an evaluating unit (5) for converting the radiation supplied to it into electrical signals and for evaluating the signals on the basis of a phase difference, An accurate surface measurement is favored by the angle of inclination (γ) of the exit surface (3.4) to the normal of the optical probe axis (3.5) amounting to at least 46° . (Fig. 4)